

ABSTRACT OF THE DISCLOSURE

A system that provides a multi-drop local area network (LAN) data transfer with devices on a wide area network (WAN) via a communication network is disclosed. Two methods for managing data traffic flow between individual nodes on a LAN and a WAN are also disclosed. The point to multi-point communication system may be implemented with a digital subscriber line (DSL) transceiver and compatibly configured communication devices coupled with each node or computer on a LAN. In one embodiment, the system uses a master computer on the LAN to manage protocol stacks to control the flow of downstream and upstream data traffic between computers on the LAN and WAN data traffic on a DSL. In a second embodiment, the master computer assigns at least one asynchronous transfer mode (ATM) level virtual connection (VC) to each computer on the LAN. Each computer on the LAN identifies data traffic designated to be sent to that particular computer, removes the data from the network, and notifies the master computer that the data traffic has been received. In the second embodiment, upstream data traffic is forwarded to the master computer, which maps the appropriate ATM VC identifier before forwarding the data to the DSL transceiver for transmission. Further alternative embodiments can use a community access television (CATV) network and a wireless network to bridge the LAN and the WAN.